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Nebraska Summary: S710 Challenger MT425B

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SUMMARY OF OECD TEST 2532-NEBRASKA SUMMARY 710

CHALLENGER MT425B DIESEL

16 SPEED

Tractor chassis S/N T318019 and higher

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—1100 rpm)					
76.7 (57.2)	2200	4.92 (18.61)	0.457 (0.278)	15.58 (3.07)	
Standard Power Take-off Speed(1000 rpm)					
81.1 (60.5)	2000	4.76 (18.02)	0.417 (0.254)	17.05 (3.36)	
Maximum Power (1 hour)					
81.1 (60.5)	2000	4.76 (18.02)	0.417 (0.254)	17.05 (3.36)	

VARYING POWER AND FUEL CONSUMPTION

76.7 (57.2)	2200	4.92 (18.61)	0.457 (0.278)	15.58 (3.07)	Air temperature
67.2 (50.1)	2273	4.43 (16.77)	0.469 (0.286)	15.18 (2.99)	75°F (24°C)
51.1 (38.1)	2294	3.63 (13.76)	0.506 (0.308)	14.06 (2.77)	Relative humidity
33.9 (25.3)	2311	2.96 (11.22)	0.621 (0.378)	11.46 (2.26)	41%
17.3 (12.9)	2330	2.11 (8.00)	0.870 (0.529)	8.18 (1.61)	Barometer
--	2345	1.47 (5.56)	--	--	30.0" Hg(101.7kPa)

Maximum torque - 276.7 lb.-ft. (375.1 Nm) at 1200 rpm

Maximum torque rise - 51.1%

Torque rise at 1750 engine rpm - 33%

DRAWBAR PERFORMANCE

(Unballasted - Front Drive Engaged)

FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—9th(3A) Gear									
64.0 (47.7)	4050 (18.0)	5.92 (9.53)	2199	4.2	0.530 (0.323)	13.39 (2.64)	189 (87)	77 (25)	30.1 (102.0)
75% of Pull at Maximum Power—9th(3A) Gear									
49.3 (36.8)	3010 (13.4)	6.15 (9.89)	2259	3.4	0.579 (0.352)	12.26 (2.41)	185 (85)	77 (25)	30.1 (102.0)
50% of Pull at Maximum Power—9th(3A) Gear									
33.8 (25.2)	2015 (9.0)	6.29 (10.12)	2286	2.2	0.720 (0.438)	9.86 (1.94)	185 (85)	77 (25)	30.1 (102.0)
75% of Pull at Reduced Engine Speed—10th(3B) Gear									
49.3 (36.8)	3030 (13.5)	6.10 (9.82)	1833	3.8	0.481 (0.292)	14.77 (2.91)	185 (85)	77 (25)	30.1 (102.0)
50% of Pull at Reduced Engine Speed—10th(3B) Gear									
34.9 (26.0)	2075 (9.2)	6.30 (10.14)	1868	2.6	0.571 (0.347)	12.44 (2.45)	185 (85)	77 (25)	30.1 (102.0)

Location of tests: Groupement d'Antony, Parc de Touvoie, BP 44 Antony, Cedex, France 92163
Dates of tests: June, 2009

Manufacturer: AGCOS.A. BP 307, Avenue Blaise Pascal, 60026 Beauvais, France

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.855 **Fuel weight** 7.12 lbs/gal (0.853 kg/l) **Oil** SAE 15W40 **API service classification** CH4 **Transmission and hydraulic lubricant** BP Terrac Tractan 9 fluid **Front axle lubricant** API GL5 - SAE 85W140

ENGINE: Make Perkins Diesel **Type** four cylinder vertical with turbocharger and air to air intercooler **Serial No.** U044294T **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.134" x 5.000" (105.0 mm x 127.0 mm) **Compression ratio** 18.2 to 1 **Displacement** 268 cu in (4400 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** one paper element **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: **Type** front wheel assist **Serial No.** T098001 **Tread width** rear 53.4" (1357 mm) to 84.4" (2144 mm) front 52.4" (1332 mm) to 85.6" (2174 mm) **Wheelbase** 100.5" (2552 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (4) range operator controlled powershift **Nominal travel speeds mph (km/h)** first 1.24 (1.99) second 1.51 (2.44) third 1.85 (2.98) fourth 2.28 (3.67) fifth 2.93 (4.71) sixth 3.60 (5.80) seventh 4.39 (7.07) eighth 5.41 (8.70) ninth 5.95 (9.57) tenth 7.31 (11.77) eleventh 8.92 (14.36) twelfth 10.97 (17.66) thirteenth 13.72 (22.08) fourteenth 16.88 (27.16) fifteenth 20.58 (33.12) sixteenth 25.31 (40.73) reverse 1.24 (1.99), 1.51 (2.44), 1.85 (2.98), 2.28 (3.67), 2.93 (4.71), 3.60 (5.80), 4.39 (7.07), 5.41 (8.70), 5.95 (9.57), 7.31 (11.77), 8.92 (14.36), 10.97 (17.66), 13.72 (22.08), 16.88 (27.16), 20.58 (33.12), 25.31 (40.73) **Clutch** multiple wet disc operated by foot pedal **Brakes** multiple wet disc hydraulically operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1980 engine rpm or 1000 rpm at 2000 engine rpm **Unladen tractor mass** 9445 lb (4285 kg)

DRAWBAR PERFORMANCE
(Unballasted - Front Drive Engaged)
MAXIMUM POWER IN SELECTED GEARS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
43.6 (32.5)	8005 (35.6)	2.04 (3.28)	2243	14.8	4th(1D)Gear 0.693 (0.421)	10.25 (2.02)	187 (86)	70 (21)	30.1 (102.0)
55.3 (41.2)	7800 (34.7)	2.66 (4.28)	2191	11.5	5th(2A)Gear 0.600 (0.365)	11.83 (2.33)	187 (86)	70 (21)	30.1 (102.0)
62.1 (46.3)	7180 (31.9)	3.24 (5.22)	2105	9.3	6th(2B)Gear 0.551 (0.335)	12.89 (2.54)	189 (87)	70 (21)	30.1 (102.0)
65.7 (49.0)	6450 (28.7)	3.82 (6.14)	2001	7.4	7th(2C)Gear 0.518 (0.315)	13.71 (2.70)	190 (88)	70 (21)	30.1 (102.0)
65.6 (48.9)	5105 (22.7)	4.82 (7.75)	2001	6.1	8th(2D)Gear 0.518 (0.315)	13.71 (2.70)	189 (87)	70 (21)	30.1 (102.0)
67.5 (50.3)	4765 (21.2)	5.31 (8.55)	1994	5.3	9th(3A)Gear 0.504 (0.306)	14.09 (2.77)	187 (86)	72 (22)	30.1 (102.0)
66.6 (49.7)	3775 (16.8)	6.62 (10.66)	2007	5.0	10th(3B)Gear 0.509 (0.309)	13.96 (2.75)	187 (86)	72 (22)	30.1 (102.0)
64.9 (48.4)	3000 (13.3)	8.12 (13.06)	2006	4.5	11th(3C)Gear 0.528 (0.321)	13.45 (2.65)	187 (86)	72 (22)	30.1 (102.0)
64.1 (47.8)	2445 (10.9)	9.83 (15.81)	2000	5.1	*12th(3D)Gear 0.526 (0.320)	13.50 (2.66)	189 (87)	72 (22)	30.1 (102.0)

*Front Drive Disengaged

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At no load in 7th (2C) gear	73.0	73.0
Bystander	--	--

TRACTOR SOUND LEVEL WITHOUT CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At no load in 7th (2C) gear	85.0	85.0
Bystander	--	--

TIRES AND WEIGHT

Rear tires - No.,size, ply & psi(kPa)
Front tires - No.,size, ply & psi(kPa)
Height of Drawbar
Static Weight with operator- Rear
- Front
- Total

Tested without ballast

Two 18.4R34; **,14(95)
Two 14.9R24; **,15(100)
19.7 in (500 mm)
5885 lb (2670 kg)
3725 lb (1690 kg)
9610 lb (4360 kg)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

NOTE 1: The data on this summary was obtained from OECD report 2532 conducted on the Massey Ferguson 5425 Diesel.

NOTE 2: The performance figures on this report apply to tractors with chassis S/N T318019 and higher.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet the manufacturer's claim of 26 GPM (100 lpm) hydraulic flow at the remote outlets. The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2532**, Nebraska Summary 710, April 9, 2010.

Roger M. Hoy
Director

M.F. Kocher
D.R. Keshwani
J.A. Smith
Board of Tractor Test Engineers

DRAWBAR PERFORMANCE
(Unballasted - Front Drive Disengaged)
MAXIMUM POWER IN SELECTED GEARS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
4th (1D) Gear									
34.6 (25.8)	6405 (28.5)	2.03 (3.26)	2272	15.5	0.755 (0.459)	9.41 (1.85)	187 (86)	66 (19)	30.1 (102.0)
5th(2A) Gear									
44.7 (33.3)	6285 (28.0)	2.67 (4.29)	2250	12.7	0.651 (0.396)	10.91 (2.15)	187 (86)	66 (19)	30.1 (102.0)
6th(2B)Gear									
54.3 (40.5)	6245 (27.8)	3.26 (5.25)	2207	11.8	0.598 (0.364)	11.85 (2.33)	189 (87)	66 (19)	30.1 (102.0)
7th(2C) Gear									
61.8 (46.1)	6060 (27.0)	3.83 (6.16)	2095	10.5	0.557 (0.339)	12.74 (2.51)	189 (87)	66 (19)	30.1 (102.0)
8th(2D) Gear									
64.6 (48.2)	5220 (23.2)	4.64 (7.47)	1999	7.8	0.524 (0.318)	13.56 (2.67)	187 (86)	66 (19)	30.1 (102.0)
9th(3A) Gear									
66.4 (49.5)	4810 (21.4)	5.18 (8.33)	2001	6.4	0.530 (0.322)	13.40 (2.64)	187 (86)	66 (19)	30.1 (102.0)
10th(3B) Gear									
63.8 (47.6)	3695 (16.4)	6.48 (10.43)	2004	5.3	0.524 (0.318)	13.56 (2.67)	187 (86)	66 (19)	30.1 (102.0)
11th(3C)Gear									
65.0 (48.5)	3075 (13.7)	7.93 (12.76)	2000	4.3	0.534 (0.325)	13.30 (2.62)	189 (87)	66 (19)	30.1 (102.0)
12th(4D)Gear									
64.4 (48.0)	2455 (10.9)	9.83 (15.82)	2004	3.9	0.524 (0.319)	13.55 (2.67)	189 (87)	66 (19)	30.1 (102.0)

TIRES AND WEIGHT

Rear tires - No.,size, ply & psi(kPa)

Front tires - No.,size, ply & psi(kPa)

Height of Drawbar

Static Weight with operator-Rear
 - Front
 - Total

Tested without ballast

Two 18.4R34; **,14(95)

Two 14.9R24; **,15(100)

34.6 in (880 mm)

5885 lb (2670 kg)

3725 lb (1690 kg)

9610 lb (4360 kg)

HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range: 7817 lbs (34.8 kN) (66 mm lift cylinders)

9189 lbs (40.9 kN) (75 mm lift cylinders)

Open center system

100 l/min pump 57 l/min pump

i) Sustained pressure of the open relief valve: 3136 psi (216 bar) 2725 psi (188 bar)

ii) Pump delivery rate at minimum pressure: 24.1 GPM (91.2 l/min) 16.5 GPM (62.6 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 22.4 GPM (84.8 l/min) 14.6 GPM (55.2 l/min)

Delivery pressure: 2338 psi (161 bar) 2450 psi (169 bar)

Power: 30.6 HP (22.8 kW) 20.9 hp (15.6 kW)

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi. (bar)

2770 (191)

Location:

lift cylinder

Hydraulic oil temperature: °F (°C)

152 (67)

Location:

hydraulic valve

Category:

II

Quick attach:

none

66 mm cylinders

SAE Static Test—System pressure 2490 psi (172 Bar)

Hitch point distance to ground level in. (mm) 9.9 (251) 15.0 (381) 22.0 (559) 29.0 (737) 36.0 (914)

Lift force on frame lb 15561 12897 11745 10314 9126

" " " " " (kN) (69.2) (57.4) (51.0) (45.9) (40.6)

75 mm cylinders

SAE Static Test—System pressure 2490 psi (172 Bar)

Hitch point distance to ground level in. (mm) 10.2 (259) 15.0 (381) 22.0 (559) 29.0 (737) 36.0 (914)

Lift force on frame lb 18747 15849 14310 12789 11421

" " " " " (kN) (83.4) (70.5) (63.7) (56.9) (50.8)

HITCH DIMENSIONS AS TESTED—NO LOAD

	SAE test		OECD test	
	inch	mm	inch	mm
A	24.8	629	24.8	629
B	11.6	295	11.6	295
C	13.9	353	13.9	353
D	13.0	330	13.0	330
E	7.9	200	7.9	200
F	10.2	260	10.2	260
G	30.3	770	30.3	770
H	1.4	35	1.4	35
I	16.2	413	16.2	413
J	20.1	510	20.1	510
K	24.2	615	24.2	615
L	41.2	1046	41.2	1046
M	23.5	596	23.5	596
N	37.2	946	37.2	946
O	8.0	203	8.0	203
P	40.2	1020	44.1	1120
Q	33.5	850	33.5	850
R	29.0	737	29.0	737

